

User Guide v0.1



Table Of Contents

Table Of Contents	2
Installation	3
Configuring your server for SSL	5
The Songthrush Menu	6
Configuring your internet connection	7
Registering a Twitter Account	8
Configuring your account for use with Songthrush	10
Quick Setup	10
Full Setup	13
Authorising Songthrush to your Twitter account	15
Sending Tweets	20
Tweeting from the menu	20
The Tweet Command	20
The Tweet Program	20
Message Queue Monitors	21
Getting Notifications On Your Smartphone	27
Custom Twitter Applications	27
Registering an application on Twitter	27
Linking your application to Songthrush	35
Editing Application Settings	36
Editing credentials stored against an application	37
License Information	41
Songthrush License	41
Third Party Licenses	41
CJSON	41
ΗΤΤΡΔΡΙ	/11

Installation

The installation process consists of two main steps – transferring the downloaded save file to your IBM i, and then restoring its contents onto your system.

Transfer via FTP

- 1. Download the software to your local PC
- 2. Upload the software via FTP
- Create a save file on your IBM i e.g. CRTSAVF QGPL/SONGSAVF
- From a command prompt on your PC device, open an FTP session to your IBM I e.g. on Windows/Linux

```
o ftp xxx.xxx.xxx
```

where xxx.xxx.xxx is the IP address of your system.

- Logon to your system
- Change library to QGPL if it is not already your current library

```
o cd QGPL
```

- Change your local working directory to the folder to which you downloaded the software using the lcd command

```
o lcd C:\Temp
```

Change your FTP session to binary mode

```
o BIN
```

- Transfer the save file to your IBM i
 - o PUT songthrushV7R1M0.savf SONGSAVF

Transfer via IFS

- 1. If the IFS of your IBM i has folders that have been shared, you can download the software directly to one of these folders, or if preferred, first download to your local PC and then copy it across to one of these folders.
- 2. Once the software is in the IFS, you can copy the save file into a library with the CPYFRMSTMF command e.g.
- CPYFRMSTMF FROMSTMF('/songbuilds/songthrushV7R1M0.savf')
 TOMBR('/QSYS.LIB/QGPL.LIB/SONG.FILE')

Restore the SONGTHRUSH library from the save file

- 1. Once you have the software in a save file in a library on the IBM i, you then need to restore the application software from the save file onto your filesystem.
- RSTLIB SAVLIB (SONGTHRUSH) DEV (*SAVF) SAVF (QGPL/SONGSAVF)

If you want to restore the library to a different name - e.g. because you already have an old instance of the software, or the library name has been used for another purpose, specify the RSTLIB parameter on the command above.

- RSTLIB SAVLIB (SONGTHRUSH) DEV (*SAVF) SAVF (QGPL/SONGSAVF)
RSTLIB (SONGNEW)

You will also need to run the command CHGINSTLIB in the new library which will change the installation library in the application's settings.

- CHGINSTLIB LIB('<INSTALLLIB>')

Configuring your server for SSL

All of the interaction between your server and Twitter takes place over a secure https connection so you will need to set your server up to support SSL if it does not already do so.

If you have already configured a *SYSTEM certificate store in the Digital Certificate Manager, you can skip this section. If you don't know if your server has this configured, check for the files "default.kdb" and "default.rdb" in the IFS folder "/QIBM/USERDATA/ICSS/CERT/SERVER". If they exist, your *SYSTEM certificate store has been set up.

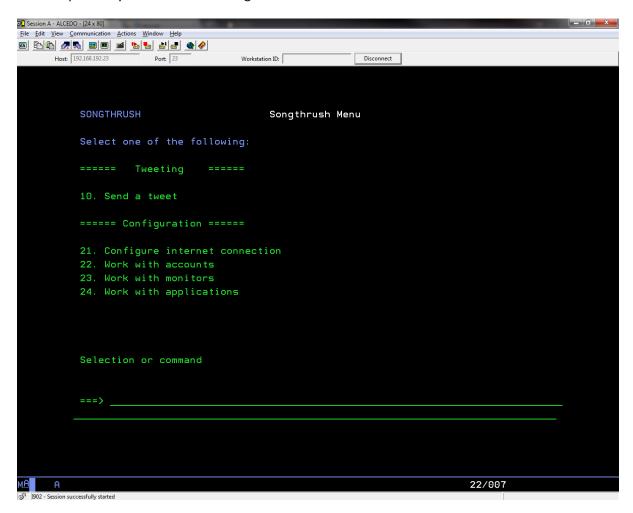
- 1- Verify pre-requisite software is installed
 - a. Digital Certificate Manager. Option 34 of the operating system. (57xx-SS1)
 - b. TCP/IP Connectivity Utilities (57xx-TC1)
 - c. IBM HTTP server for iSeries (57xx-DG1)
 - d. IBM Crypto Access Provider (57xx-NAE)
 - e. IBM Developer Kit for Java (57xx-JV1)
- 2- Start the Admin instance of the IBM HTTP Server
 - a. STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
- 3- Connect to the admin instance of the HTTP Server in a browser
 - a. http://<server>:2001
- 4- Click "Digital Certificate Manager" in the menu
- 5- In the navigation bar on the left, click "Create New Certificate Store"
- 6- Select "*SYSTEM" certificate store and accept the defaults to all prompts. You will need to specify a password for this certificate store so choose something memorable yet secure.

NB: All users that will be running the Songthrush software will need to have permission to read the files that are created by these steps. Please ensure that they have a minimum of *RX access to all directories in the path "/QIBM/USERDATA/ICSS/CERT/SERVER" and *R access to the files "/QIBM/USERDATA/ICSS/CERT/SERVER/DEFAULT.KDB" and "/QIBM/USERDATA/ICSS/CERT/SERVER/DEFAULT.RDB".

The Songthrush Menu

Once the software is installed onto your system, the main menu can be accessed via the command SONGTHRUSH in the installation library.

This will present you with the following Menu:

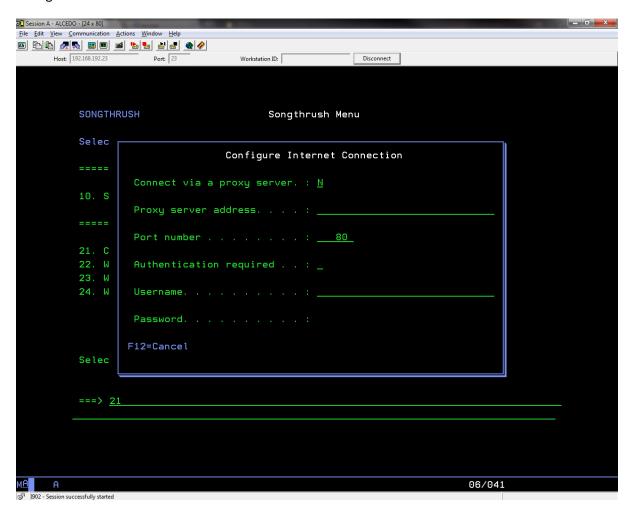


Configuring your internet connection

If your IBM i is directly connected to the internet then no configuration is necessary.

If your IBM i needs to use a proxy server to connect to the internet from your IBM i then details of this server will need to be configured.

From the main Songthrush menu, take option 21 – Configure internet connection, or use the CFGINET command in the installation library from the command line to display the internet configuration window:



To specify connection via a proxy server, enter 'Y' in the Connect via a proxy server field.

Provide the proxy server's IP address and the port number that the proxy service runs on in the respective fields.

If the server requires authentication, specify 'Y' in the Authentication required field. Enter the username and password for the proxy server in the respective fields.

Please note that only the 'BASIC' authentication scheme is supported. Other methods of proxy authentication such as Digest or NTLM are not supported by the software.

Once the details are fully completed, press ENTER to save the configuration.

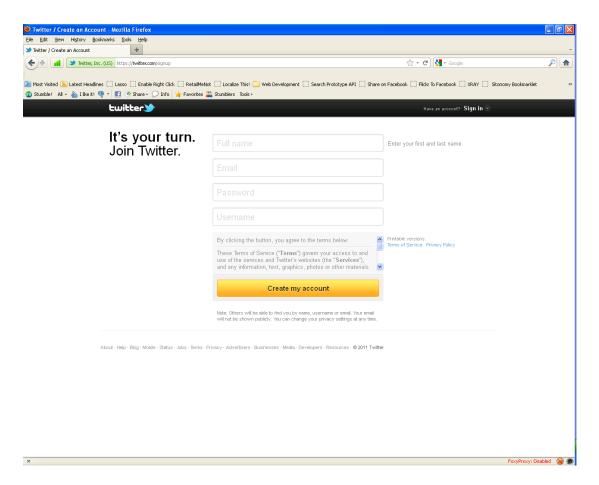
Registering a Twitter Account

In order to send messages via Twitter you need to set up or configure a Twitter account to send them from.

If you already have a Twitter account that you want to use, please skip this section.

Open a web browser and go to https://twitter.com/signup

You will see a form like the one below (subject to any future changes that Twitter make to their website)



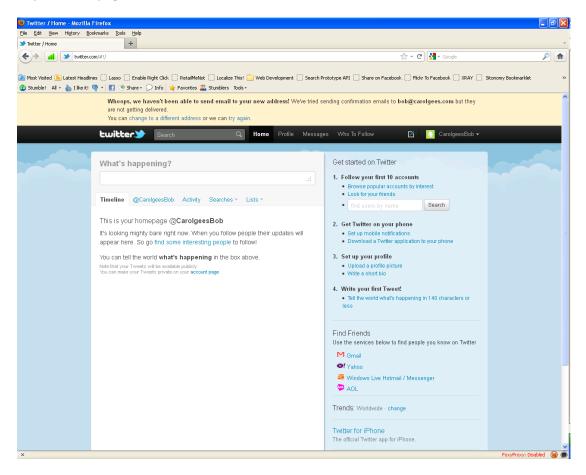
All of these details can be changed later, but Twitter will use the email address that you specify to confirm your registration, so that needs to be a genuine address. An email address can also only have one Twitter account registered to it.

The full name that you enter will appear next to your messages on the Twitter website and other devices.

The username that you choose is used to identify you to Twitter and other Twitter uses. It is used for login, authentication, sending and receiving messages etc. This is changeable though as Twitter also gives you a hidden internal identifier, so as long as the username that you want to use is available you are able to change it as often as you want to.

Once you have completed the form and submitted it, Twitter takes you through a couple of welcome pages that are useful to people getting started with a personal account, but that we want to ignore for our purposes at the moment.

Click "Skip this step" on the "Browse categories" and "Find people you know" pages until you arrive at your homepage.

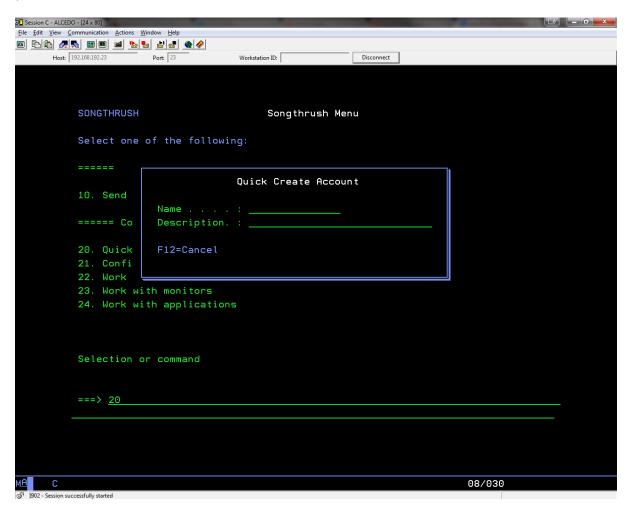


Once you receive your confirmation email, be sure to follow the instructions that it contains and this account will be given full access to Twitter's features.

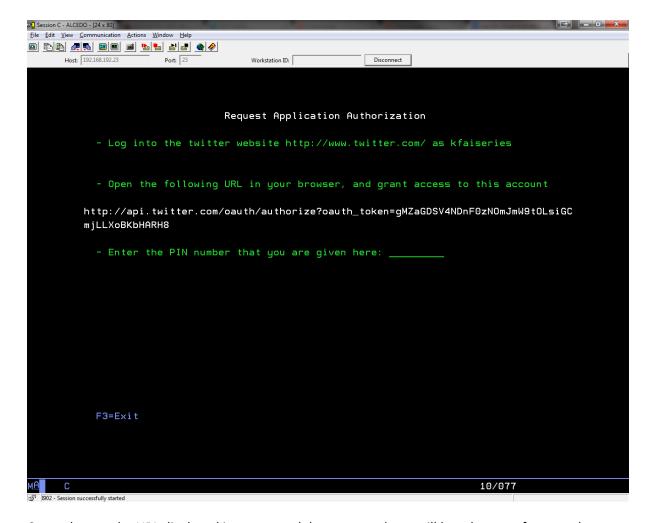
Configuring your account for use with Songthrush

Quick Setup

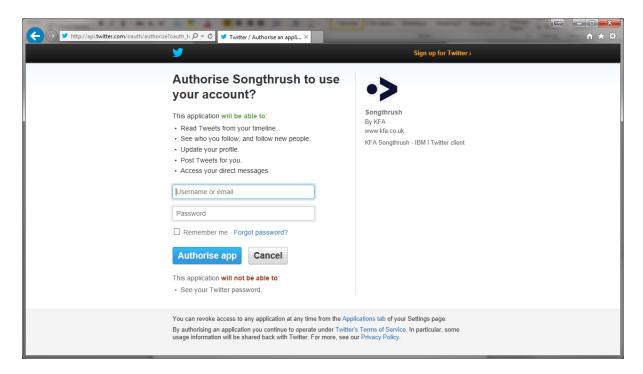
The quickest way to link your Twitter account to Songthrush is to select the 'Quick add an account' option from the main Songthrush menu. This will prompt you for the account name and a text description of it, and then step through the process of authorising Songthrush to access Twitter on your account's behalf.



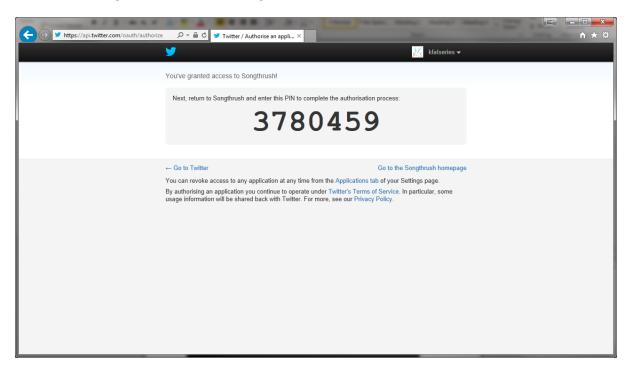
Once you have entered your Twitter account name and description, the following screen will be issued



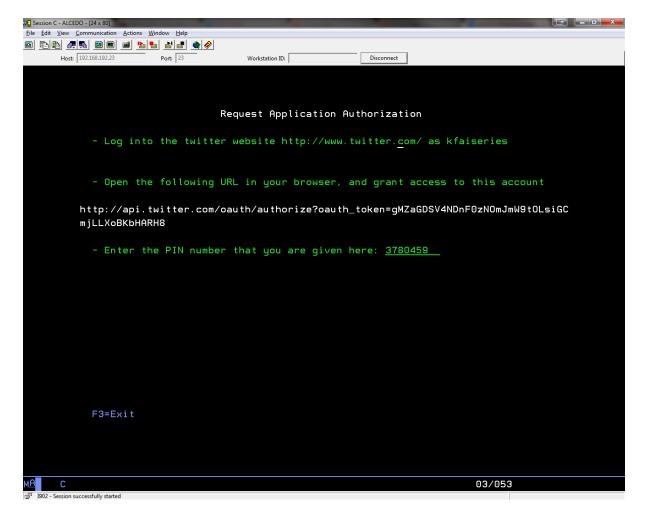
Cut and paste the URL displayed into your web browser, and you will be taken to a form on the Twitter website that will ask you for your account name and password (if you are not already logged into the Twitter service – if you are logged in, please ensure that you are logged in with the correct account or you may unwittingly grant Songthrush access to an account that you did not intend to). Enter your credentials if required and click "Authorise app" to grant Songthrush the necessary rights to your account.



You will then be given a screen containing a PIN number :



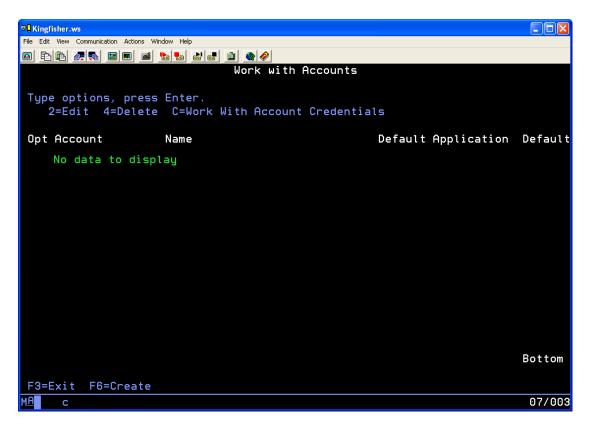
Enter this PIN number back in the terminal window:



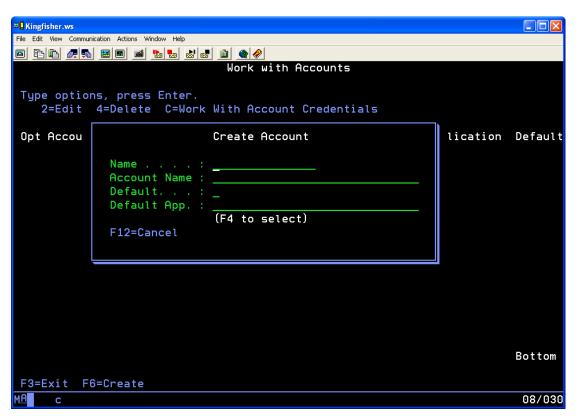
The process will now be completed. You will now be able to send Tweets directly from the IBM i using this Twitter account.

Full Setup

From the main Songthrush menu, select the "Work With Accounts" option, or enter WRKACC from the command line. You will be presented with the Work With Accounts screen: -



There will be no accounts on this screen when the software is first installed. Press F6=Create to create a record for your account. The following window will be displayed: -



Fill in the fields as follows:

Name: The Twitter username

Account Name: A descriptive long name

Default: Enter Y to set this as the default account for the system

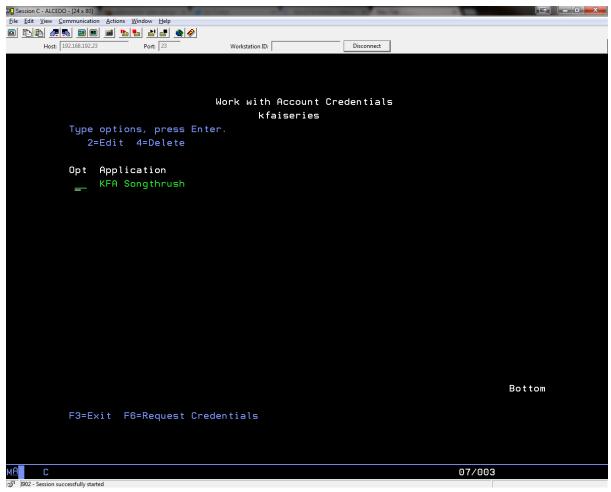
Default App: The application to use to access Twitter (see 'Applications' for more details). Press F4 to select the application from a list. In a new installation, there will be one pre-installed entry in this list – KFA Songthrush

Authorising Songthrush to your Twitter account

In order for Songthrush to post messages to the Twitter service on your account's behalf, you need to grant it authority to do so.

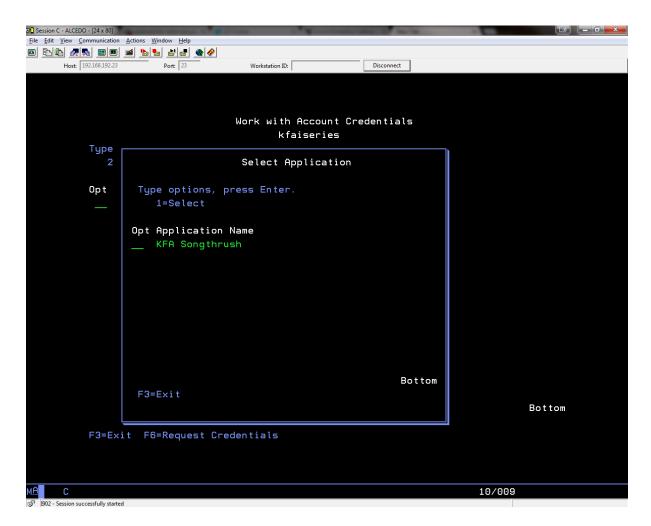
To do this, find the account on the Work With Accounts screen and enter the "Work With Account Credentials" option (C) in the Opt field on the row next to the account that you wish to authorize.

This screen gives you a list of applications to which this account has granted authority.



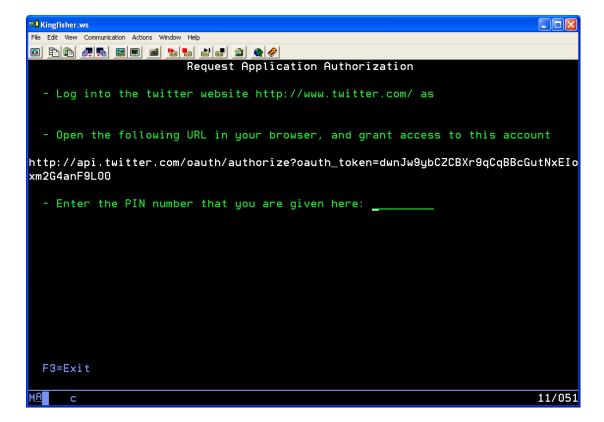
In a new installation the list will be empty. Press F6=Request Credentials to begin the process to grant Songthrush authority to your new account.

The list of applications currently defined on the system will be displayed.



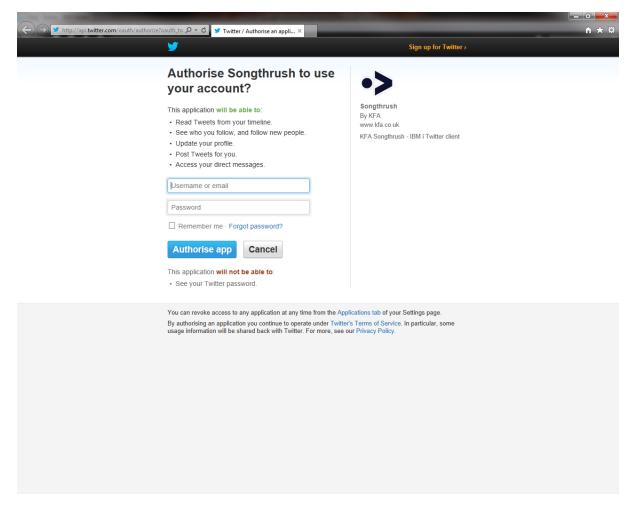
Select the KFA Songthrush application by typing "1" in the Opt column next to it and press ENTER.

You will be presented with the following screen:



The link that is displayed is a web page that you need to navigate to retrieve a serial number that will allow the process to be completed. If you are using an emulator that supports it, double click the link to launch your web browser. Otherwise, open your web browser and copy and paste the URL into the address bar.

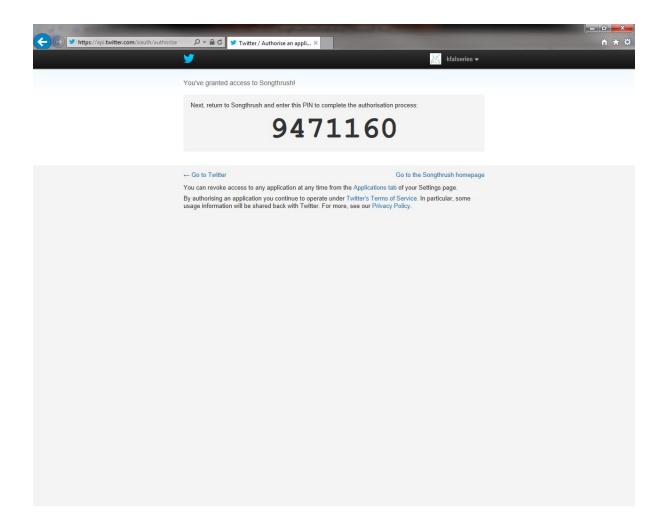
You will now be taken to the Twitter website and be asked to authorize the application with a screen similar to the following.



If you are already logged in, you will not see the username/password prompts. Please make sure that you are logged in as the account that you intend to authorise Songthrush to. If you are logged in as a different account at this time, Songthrush's tweets will be posted by that account!

If you are not already logged in you will need to complete the username/password fields with the credentials of the account that you are attempting to authorise.

Click "Authorize app" and you will be given a serial number.



Type that number into the screen and press ENTER.

The process will now be completed and the application will be authorised to use Twitter on your account's behalf.

Sending Tweets

You can send a simple status update message ('Tweet') in several ways.

- From the Songthrush menu screen
- With a command
- Calling a program

Tweeting from the menu

On the main Songthrush menu, take the 'Send a tweet' option. This presents you with a simple screen to use to send your message, with the default user/application selected for you.

Fill in the text and press ENTER. Your tweet will be sent.

The Tweet Command

The TWEET command in the application library allows tweets to be sent from the command line. The command parameters available are as follows

TWEET*	The text that you wish to send as a tweet			
ACCOUNT	The name of the account that you want to use to send it from. The default value			
	of *DEFAULT indicates that the system default account will be used.			
APP	The name of the application that you want to use The default value of *USRDFT			
	indicates that the account's default application will be used.			

^{*} Mandatory

The Tweet Program

Behind the TWEET command is a program, also named TWEET. This program can be called directly from your IBM i programs to send tweets.

Procedure prototype

D	Tweet	PR		EXTPGM('TWEET')
D	text		140A	CONST
D	account		15A	CONST OPTIONS (*NOPASS)
D	application		30A	CONST OPTIONS (*NOPASS)

Parameter explanations:

text*	The text that you wish to send as a tweet		
account	The name of the account that you want to use to send it from. If you do not		
	specify an account, the system default account will be used.		
application	The name of the application that you want to use. If you do not specify anything		
	for this, the account's default application will be used.		

^{*} Mandatory

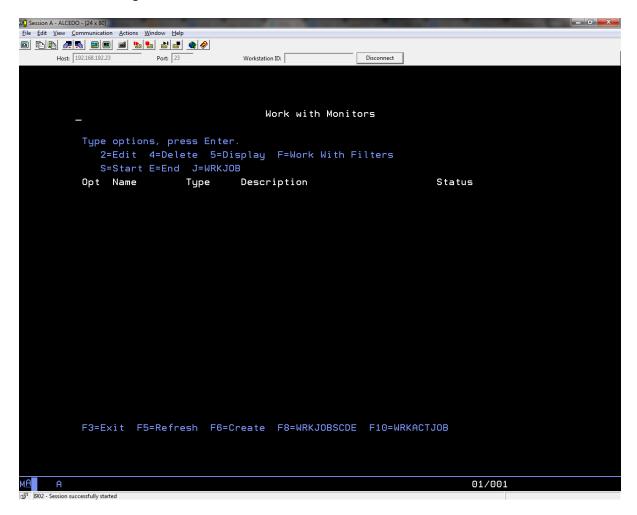
Message Queue Monitors

Songthrush offers the facility to monitor IBM i message queues and tweet messages that arrive on them.

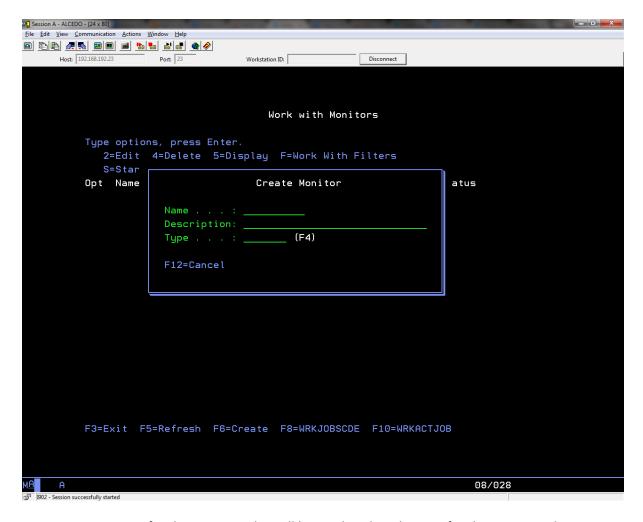
The messages to tweet can be filtered according to your chosen criteria, and can different filters can be used to tweet messages meeting different sets of criteria.

Creating a Message Queue Monitor

From the main Songthrush menu, take "Work with monitors".



Press F6 to create a new monitor.

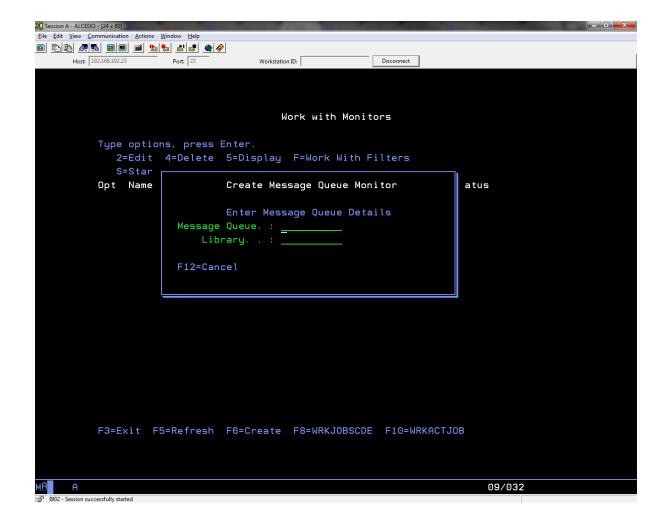


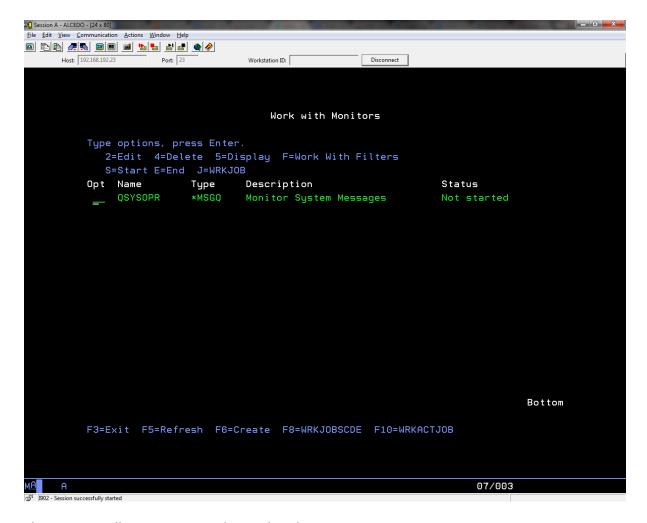
Name: Enter a name for the monitor. This will be used as the job name for the monitor job.

Description: Enter some descriptive text

Type: Enter *MSGQ for a message queue monitor. *MSGQ is the only valid input in this release of Songthrush, however other monitor types will be added in future releases.

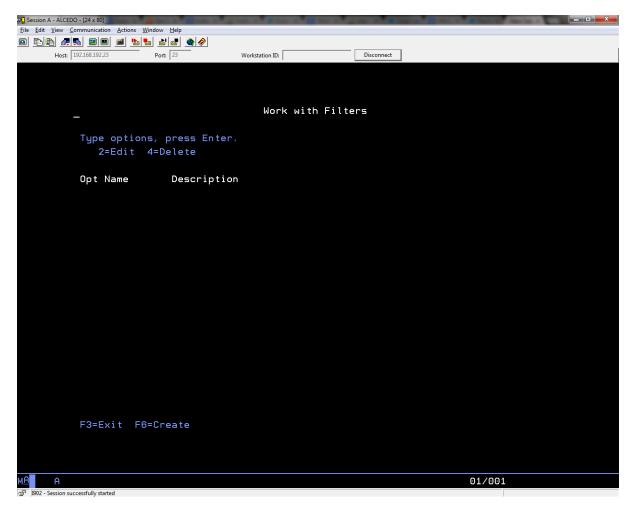
You will now be prompted for the name and location of the message queue objects.



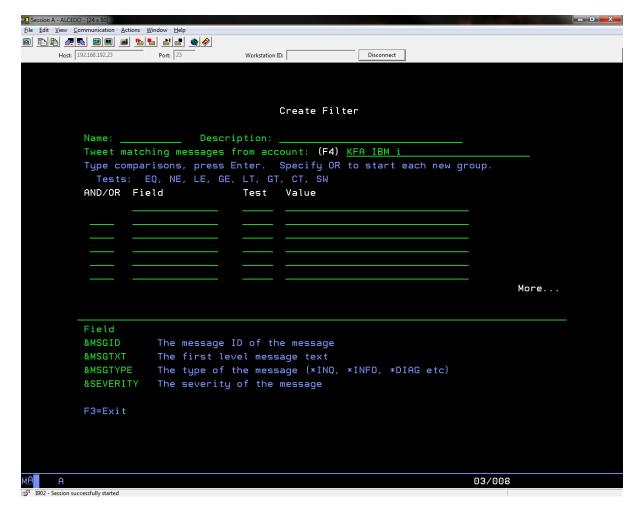


The monitor will now appear on the Work with Monitors screen.

Before any messages will be tweeted, at least one filter needs to be set up for the new monitor. Take option F against the monitor to Work With Filters.



Press F6 to create a new filter.



Name: Enter a name for the filter

Description: Enter some descriptive text

Tweet matching messages from account: Select the twitter account to use to send messages. The F4 key will allow the selection from all accounts on the system.

If all messages received on the queue are to be tweeted, press ENTER at this point. If the messages are to be restricted, the criteria messages need to meet in order to be tweeted must be specified.

Field: The field to make the comparison against. This can be one of

- &MSGID –the message ID of the message
- &MSGTXT the first level message text
- &MSGTYPE the type of the message
- &SEVERITY the severity of the message

Test: The test to perform against the field. This can be one of:

- EQ equals
- NE not equals
- LE less than or equal
- GE greater than or equal

- LT less than
- GT greater than
- CT contains
- SW starts with

Value: the value that the field is going to be compared against.

On lines other than the first, specify AND/OR in the first column to indicate if the clause is an 'and' or an 'or' clause.

Getting Notifications On Your Smartphone

You are able to receive notifications on your smartphone whenever a tweet is published by your Songthrush-linked Twitter account.

To set this up, firstly

Custom Twitter Applications

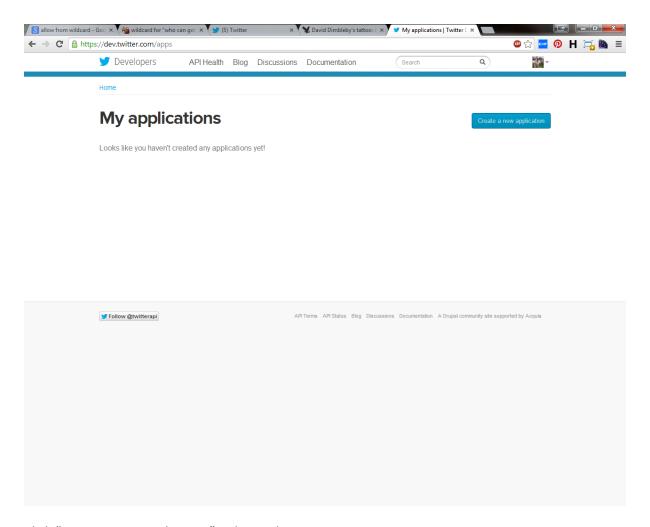
In order to use the Twitter API, it is necessary to register your application with Twitter. Songthrush has already been registered and the majority of users will simply want to use it out of the box.

However, in order for users to be able to have differentiation for the source of Tweets – e.g. for different systems or subsystems, and to allow more seamless integration with your software we provide the ability to enter your own application credentials into the system and use those instead.

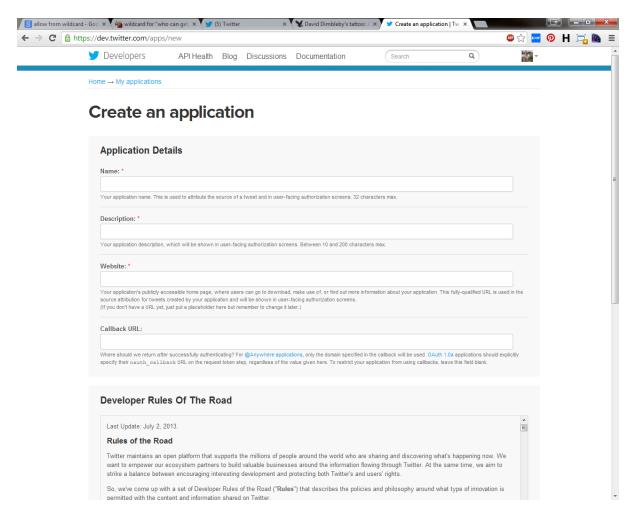
Registering an application on Twitter

Before you can configure your application in Songthrush, it needs to be created on the dev.twitter.com website. You will need to sign into this website with a valid Twitter account in order to create and register your application.

Go to http://dev.twitter.com/apps to create the application



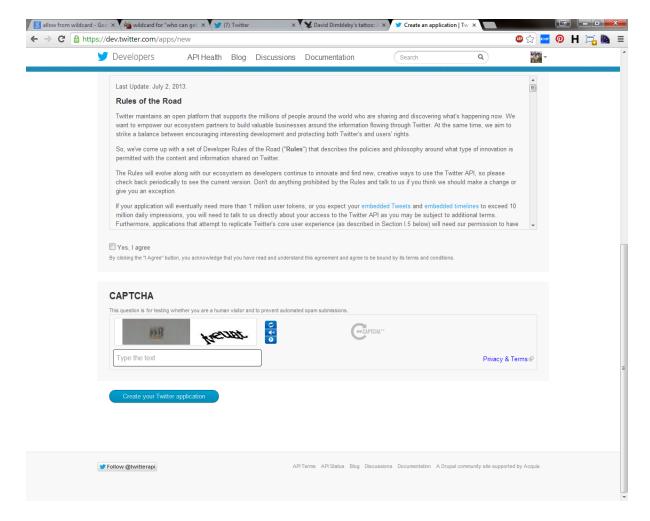
Click "Create a new application" to begin the process



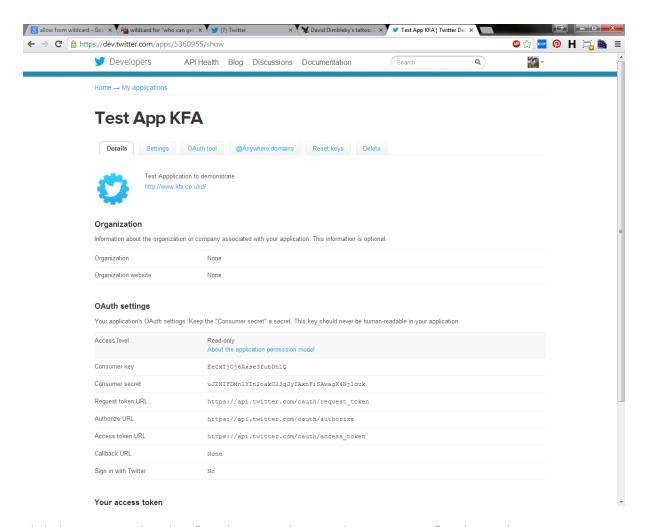
Specify the name and description of your application. Specify any relevant URL to you or your company against the Website.

Leave Callback URL blank.

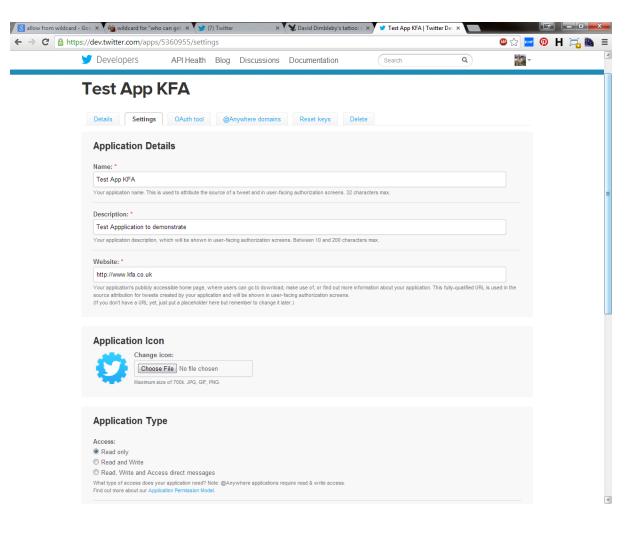
Accept the terms and conditions and complete the Captcha challenge to create your application.

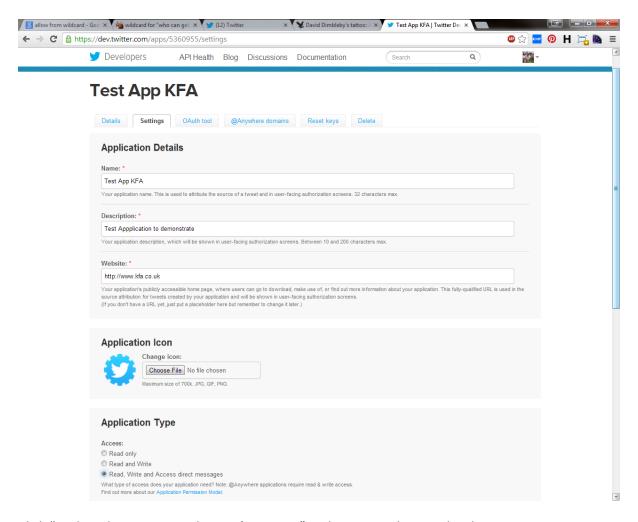


You will proceed to the application page:



Click the Settings tab. Select "Read Write and Access direct messages" under Application Type

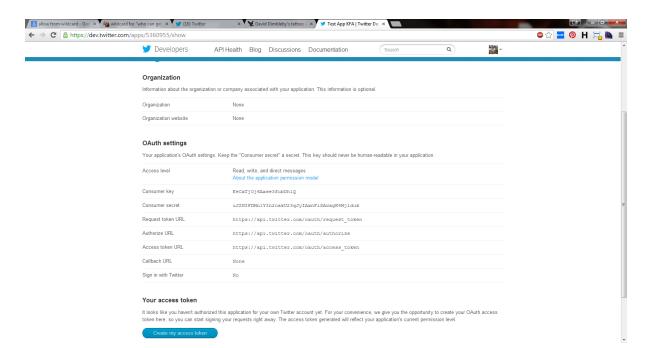




Click "Update this Twitter application's settings" and return to the Details tab.

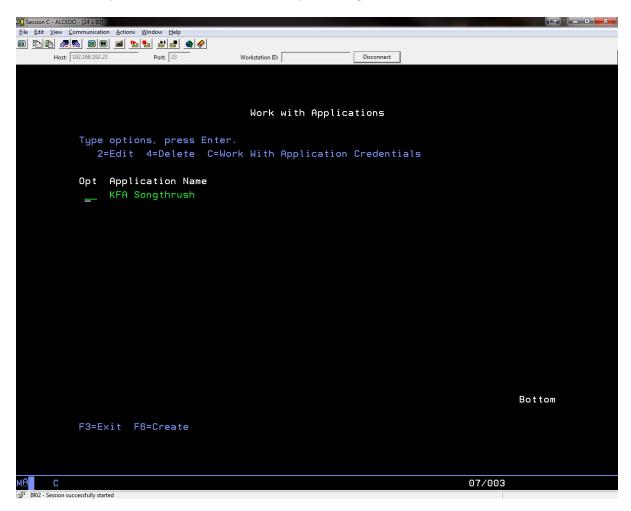
Ensure that "Access level" contains "Read, write, and direct messages ".

Scroll down to the OAuth settings section. These details will be required in the next step.

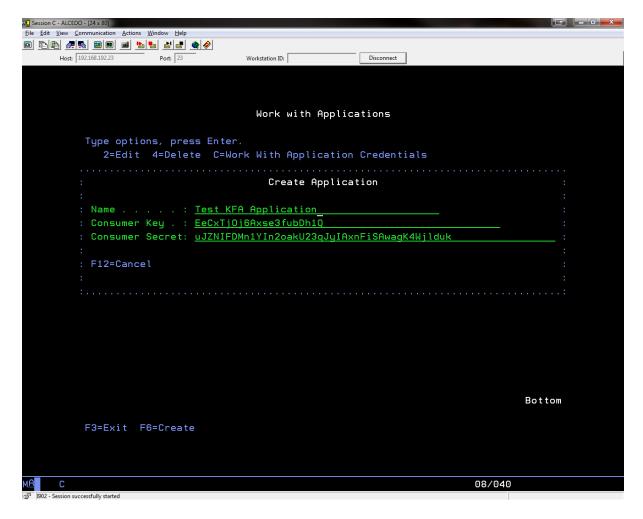


Linking your application to Songthrush

Return to a terminal window. From the main Songthrush menu, select the "Work with applications" option, or enter the WRKAPP command from the command line. You will see a list of applications defined in the system. In a new installation, only KFA Songthrush will be in this list.



Press F6 to create your new application in Songthrush:

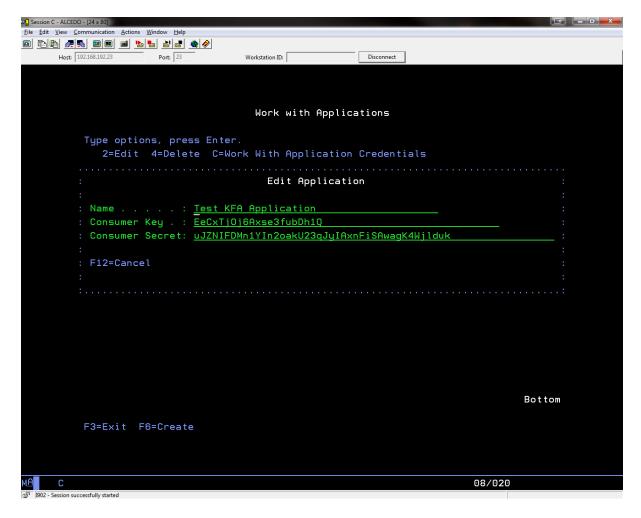


Enter the name of the application and the Consumer Key and Consumer Secret from the Twitter OAuth settings section.

Press ENTER and your application will be created.

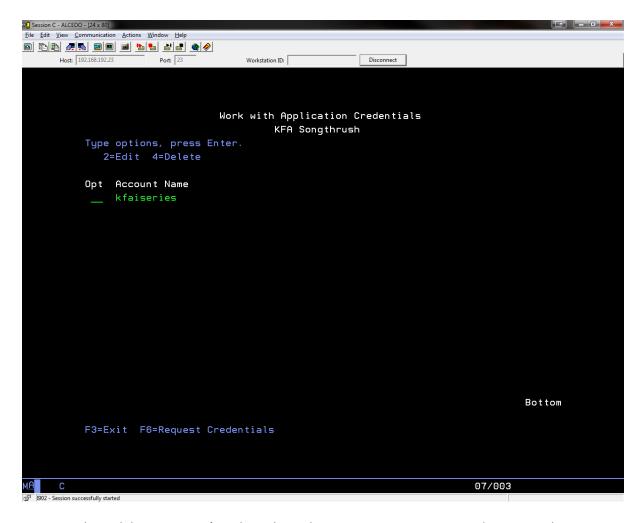
Editing Application Settings

Your application's Consumer Key and Consumer Secret should never need to be changed. However, they are secure pieces of information. In the wrong hands they would enable someone to pretend to be your application. If they are ever compromised, you can regenerate/reset your keys on the Twitter developer's website and enter your new credentials in Songthrush by taking option 2 – Edit in the Work with Applications screen and changing the details therein.



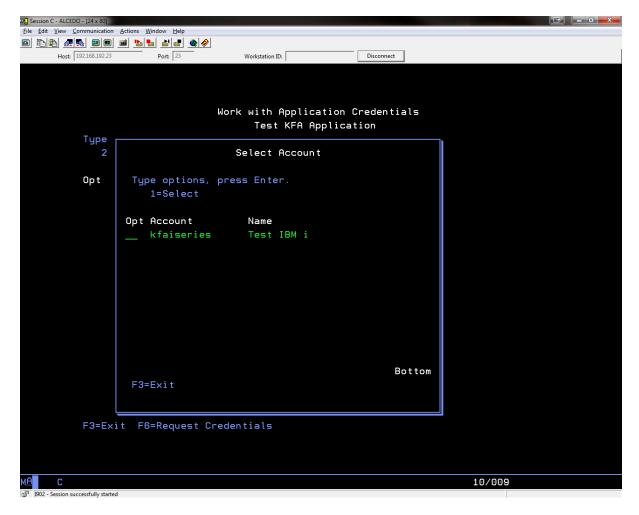
Editing credentials stored against an application

To view the account that have granted an application authority, take option C – Work With Application Credentials.

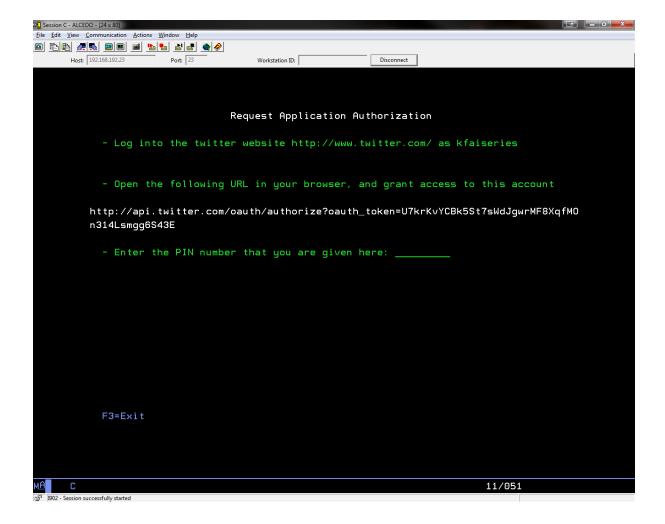


You can edit or delete accounts' credentials on this screen using option 2 – Edit or 4 – Delete.

Use F6 to request credentials for a different account. The software will ask you first to select the account from those defined on the system:



Once an account is selected, you will be issued with a screen prompting you to visit a URL on the twitter website to proceed with authorization. Instructions from this point are identical to those following this step detailed in the "Full Setup" and "Quick Setup" sections above.



License Information

Songthrush License

Third Party Licenses

CISON

This software includes an IBM I port of the CJSON library. This is distributed under the MIT license.

Permission is hereby granted, free of charge, to any person obtaining a copyof this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

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HTTPAPI

This software includes the HTTPAPI library written by Scott Klement (www.scottklement.com/httpapi/). The license terms for HTTPAPI are as follows:

Copyright (c) 2001-2011 Scott C. Klement All rights reserved.

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